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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,266	09/27/2004	Heikki Heikkila	18276	5317

7590 02/15/2007  
Leopold Presser  
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400 Garden City Plaza  
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EXAMINER
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THERKORN, ERNEST G

ART UNIT	PAPER NUMBER
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1723

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/15/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/509,266

Applicant(s)

HEIKKILA ET AL.

Examiner

Ernest G. Therkorn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-18,20-22 and 24-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-18,20-22 and 24-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. "preferably" renders the claim indefinite.

Claims 1, 5-18, 20-22, and 24-29 are rejected under 35 U.S.C. 102(B) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification. PTO Translation 06-3081 of Japan Patent No. 4-158260 will serve as a translation of Japan Patent No. 4-158260. The claims are considered to read on either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification. However, if a difference exists between the claims and either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification, it would reside in optimizing the steps of either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification. It would have been obvious to optimize the steps of either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification to enhance separation.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan

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Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 5-18, 20-22, and 24-29 above, and further in view of either Schoenrock (U.S. Patent No. 3,982,956) or Tanikawa (U.S. Patent No. 6,224,683). At best, the claim differs from either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification in reciting use of a weakly acid cation exchange resin. Schoenrock (U.S. Patent No. 3,982,956) (column 1, lines 47-56 and column 2, line 65-column 3, line 20) discloses that use of a weak acid cation exchange resin prior to a weak base anion exchange resin removes undesirable cations. Tanikawa (U.S. Patent No. 6,224,683) (column 1, lines 46-51) discloses a weak acid cation exchange resin aids in softening and demineralization. It would have been obvious to use a weak acid cation exchange resin in either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification either because Schoenrock (U.S. Patent No. 3,982,956) (column 1, lines 47-56 and column 2, line 65-column 3, line 20) discloses that use of a weak acid cation exchange resin prior to a weak base anion exchange resin removes undesirable cations or because Tanikawa (U.S. Patent No. 6,224,683) (column 1, lines 46-51) discloses a weak acid cation exchange resin aids in softening and demineralization.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant

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specification as applied to claims 1, 5-18, 20-22, and 24-29 above, and further in view of Heikkila (U.S. Patent No. 6,146,856). At best, the claims differ from either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification in reciting use of a cation exchange resin. Heikkila (U.S. Patent No. 6,146,856) (column 2, lines 4-8) discloses that cation exchange resins chromatographically separate sugar solutions. It would have been obvious to use cation exchange resins in either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification because Heikkila (U.S. Patent No. 6,146,856) (column 2, lines 4-8) discloses that cation exchange resins chromatographically separate sugar solutions.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 5-18, 20-22, and 24-29 above, and further in view of Fries (U.S. Patent No. 4,718,946). At best, the claim differs from either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification in reciting the weakly basic anion exchange resin is an acrylic-based resin. Fries (U.S. Patent No. 4,718,946) (column 1, line 67-column 2, line 12) discloses that use of acrylic in a weakly basic anion exchange resin reduces haze in treating sugar solutions. It would have been obvious to use acrylic in either Hirata (Japan Patent No. 4-158260) in

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view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification because Fries (U.S. Patent No. 4,718,946) (column 1, line 67-column 2, line 12) discloses that use of acrylic in a weakly basic anion exchange resin reduces haze in treating sugar solutions.

Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 5-18, 20-22, and 24-29 above, and further in view of either Haag (U.S. Patent No. 4,145,486) or Katzakian (U.S. Patent No. 5,863,438). At best, the claims differ from either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification in reciting use of styrene crosslinked with divinylbenzene. Katzakian (U.S. Patent No. 5,863,438) (column 6, line 66-column 7, line 14) discloses styrene-divinylbenzene chlormethylates treated with primary or secondary amines are improved weakly basic anion exchange resins. Haag (U.S. Patent No. 4,145,486) (column 5, lines 32-43) discloses styrene-divinylbenzene is a desired resin with which to make a weak base anion exchange resin. It would have been obvious to use styrene-divinylbenzene chlormethylates treated with primary or secondary amines in either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification either because Katzakian (U.S. Patent No. 5,863,438) (column 6, line 66-column 7, line 14) discloses styrene-divinylbenzene

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chlormethylates treated with primary or secondary amines are improved weakly basic anion exchange resins or because Haag (U.S. Patent No. 4,145,486) (column 5, lines 32-43) discloses styrene-divinylbenzene is a desired resin with which to make a weak base anion exchange resin.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 5-18, 20-22, and 24-29 above, and further in view of Pannekeet (U.S. Patent No. 4,051,221). At best, the claim differs from either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification in reciting use of isoprene. Pannekeet (U.S. Patent No. 4,051,221) (column 2, lines 3-39) discloses that isoprene is a known monomer for crosslinking weakly basic anion exchangers. It would have been obvious to use isoprene in either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification because Pannekeet (U.S. Patent No. 4,051,221) (column 2, lines 3-39) discloses that isoprene is a known monomer for crosslinking weakly basic anion exchangers.

Claims 20-22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 5-18, 20-22, and 24-29 above, and further in

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view of Heikkila (U.S. Patent No. 5,637,225). At best, the claims differ from either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification in reciting separating pentose, hexose, xylitol, and rhamnose. Heikkila (U.S. Patent No. 5,637,225) (column 2, lines 1-16 and Table 1) discloses pentose, hexose, xylitol, and rhamnose are desirable products to recover. It would have been obvious to recover pentose, hexose, xylitol, and rhamnose in either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification because Heikkila (U.S. Patent No. 5,637,225) (column 2, lines 1-16) discloses pentose, hexose, xylitol, and rhamnose are desirable products to recover.

Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 5-18, 20-22, and 24-29 above, and further in view of Heikkila (U.S. Patent No. 5,730,877). At best, the claims differ from either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification in reciting separating maltose, inositol, and glycerol. Heikkila (U.S. Patent No. 5,730,877) (column 4, lines 37-49 and column 12, line 66-column 13, line 3) discloses that maltose, inositol, and glycerol are desirable products to recover. It would have been obvious to recover maltose, inositol, and glycerol in either Hirata (Japan Patent No. 4-158260) in



view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification because Heikkila (U.S. Patent No. 5,730,877) (column 4, lines 37-49 and column 12, line 66-column 13, line 3) discloses that maltose, inositol, and glycerol are desirable products to recover.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 5-18, 20-22, and 24-29 above, and further in view of Hyoky (U.S. Patent No. 5,795,398). At best, the claim differs from either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification in reciting separating inositol. Hyoky (U.S. Patent No. 5,795,398) (column 1, lines 5-20) discloses that inositol is a desirable product to recover. It would have been obvious to recover inositol because Hyoky (U.S. Patent No. 5,795,398) (column 1, lines 5-20) discloses that inositol is a desirable product to recover.

Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 5-18, 20-22, and 24-29 above, and further in view of Heikkila (U.S. Patent No. 5,730,877). At best, the claims differ from either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification in

reciting the use of simulated moving beds. Heikkila (U.S. Patent No. 5,730,877) (column 2, lines 19-25) discloses use of a continuous or a sequential simulated moving bed enables performance several times higher than a batch process. It would have been obvious to use either a continuous or a sequential simulated moving bed in either Hirata (Japan Patent No. 4-158260) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 or that which is conceded to be old on pages 1-3 of the instant specification because Heikkila (U.S. Patent No. 5,730,877) (column 2, lines 19-25) discloses use of a continuous or sequential simulated moving bed enables performance several times higher than a batch process.

Claims 1, 3-18, 20-22, and 24-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification. PTO Translation 06-3081 of Japan Patent No. 4-158260 will serve as a translation of Japan Patent No. 4-158260. At best, the claims differ from over either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in reciting use of a weakly basic anion exchange resin. PTO Translation 06-3081 of Japan Patent No. 4-158260 and that which is conceded to be old on pages 1-3 of the instant specification each discloses that weakly basic anion exchange resins chromatographically separate monosaccharides and oligosaccharides. It would have been obvious to use a weakly basic anion exchange resin in either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) because PTO Translation 06-3081 of Japan Patent No. 4-158260 and that

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which is conceded to be old on pages 1-3 of the instant specification each discloses that weakly basic anion exchange resins chromatographically separate monosaccharides and oligosaccharides.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 3-18, 20-22, and 24-32 above, and further in view of either Schoenrock (U.S. Patent No. 3,982,956) or Tanikawa (U.S. Patent No. 6,224,683). At best, the claim differs from either Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification in reciting use of a weakly acid cation exchange resin. Schoenrock (U.S. Patent No. 3,982,956) (column 1, lines 47-56 and column 2, line 65-column 3, line 20) discloses that use of a weak acid cation exchange resin prior to a weak base anion exchange resin removes undesirable cations. Tanikawa (U.S. Patent No. 6,224,683) (column 1, lines 46-51) discloses a weak acid cation exchange resin aids in softening and demineralization. It would have been obvious to use a weak acid cation exchange resin in either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification either because Schoenrock (U.S. Patent No. 3,982,956) (column 1, lines 47-56 and column 2, line 65-column 3, line 20) discloses that use of a weak acid cation exchange

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resin prior to a weak base anion exchange resin removes undesirable cations or because Tanikawa (U.S. Patent No. 6,224,683) (column 1, lines 46-51) discloses a weak acid cation exchange resin aids in softening and demineralization.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 3-18, 20-22, and 24-32 above, and further in view of Heikkila (U.S. Patent No. 6,146,856). At best, the claims differ from either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification in reciting use of a cation exchange resin. Saska (U.S. Patent No. 5,482,631) (column 1, lines 44-49) itself discloses that cation exchange resins separate sugar solutions. Heikkila (U.S. Patent No. 6,146,856) (column 2, lines 4-8) discloses that cation exchange resins chromatographically separate sugar solutions. It would have been obvious to use cation exchange resins in either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of PTO Translation 06-3081 of Japan Patent No. 4-158260 because Saska (U.S. Patent No. 5,482,631) (column 1, lines 44-49) itself discloses that cation exchange resins separate sugar solutions and because Heikkila (U.S. Patent No. 6,146,856) (column 2, lines 4-8) discloses that cation exchange resins chromatographically separate sugar solutions.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 3-18, 20-22, and 24-32 above, and further in view of Fries (U.S. Patent No. 4,718,946). At best, the claim differs from either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification in reciting the weakly basic anion exchange resin is an acrylic-based resin. Fries (U.S. Patent No. 4,718,946) (column 1, line 67-column 2, line 12) discloses that use of acrylic in a weakly basic anion exchange resin reduces haze in treating sugar solutions. It would have been obvious to use acrylic in either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification because Fries (U.S. Patent No. 4,718,946) (column 1, line 67-column 2, line 12) discloses that use of acrylic in a weakly basic anion exchange resin reduces haze in treating sugar solutions.

Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 3-18, 20-22, and 24-32 above, and further in view of either Haag (U.S.

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Patent No. 4,145,486) or Katzakian (U.S. Patent No. 5,863,438). At best, the claims differ from either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification in reciting use of styrene crosslinked with divinylbenzene. Katzakian (U.S. Patent No. 5,863,438) (column 6, line 66-column 7, line 14) discloses styrene-divinylbenzene chlormethylates treated with primary or secondary amines are improved weakly basic anion exchange resins. Haag (U.S. Patent No. 4,145,486) (column 5, lines 32-43) discloses styrene-divinylbenzene is a desired resin with which to make a weak base anion exchange resin. It would have been obvious to use styrene-divinylbenzene chlormethylates treated with primary or secondary amines in either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification either because Katzakian (U.S. Patent No. 5,863,438) (column 6, line 66-column 7, line 14) discloses styrene-divinylbenzene chlormethylates treated with primary or secondary amines are improved weakly basic anion exchange resins or because Haag (U.S. Patent No. 4,145,486) (column 5, lines 32-43) discloses styrene-divinylbenzene is a desired resin with which to make a weak base anion exchange resin.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and

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that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 3-18, 20-22, and 24-32 above, and further in view of Pannekeet (U.S. Patent No. 4,051,221). At best, the claim differs from either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification in reciting use of isoprene. Pannekeet (U.S. Patent No. 4,051,221) (column 2, lines 3-39) discloses that isoprene is a known monomer for crosslinking weakly basic anion exchangers. It would have been obvious to use isoprene in either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification because Pannekeet (U.S. Patent No. 4,051,221) (column 2, lines 3-39) discloses that isoprene is a known monomer for crosslinking weakly basic anion exchangers.

Claims 20-22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 3-18, 20-22, and 24-32 above, and further in view of Heikkila (U.S. Patent No. 5,637,225). At best, the claims differ from either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to

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be old on pages 1-3 of the instant specification in reciting separating pentose, hexose, xylitol, and rhamnose. Heikkila (U.S. Patent No. 5,637,225) (column 2, lines 1-16 and Table 1) discloses pentose, hexose, xylitol, and rhamnose are desirable products to recover. It would have been obvious to recover pentose, hexose, xylitol, and rhamnose in either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification because Heikkila (U.S. Patent No. 5,637,225) (column 2, lines 1-16) discloses pentose, hexose, xylitol, and rhamnose are desirable products to recover.

Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 3-18, 20-22, and 24-32 above, and further in view of Heikkila (U.S. Patent No. 5,730,877). At best, the claims differ from either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification in reciting separating maltose, inositol, and glycerol. Heikkila (U.S. Patent No. 5,730,877) (column 4, lines 37-49 and column 12, line 66-column 13, line 3) discloses that maltose, inositol, and glycerol are desirable products to recover. It would have been obvious to recover maltose, inositol, and glycerol in either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of



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Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification because Heikkila (U.S. Patent No. 5,730,877) (column 4, lines 37-49 and column 12, line 66-column 13, line 3) discloses that maltose, inositol, and glycerol are desirable products to recover.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification as applied to claims 1, 3-18, 20-22, and 24-32 above, and further in view of Hyoky (U.S. Patent No. 5,795,398). At best, the claim differs from either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification in reciting separating inositol. Hyoky (U.S. Patent No. 5,795,398) (column 1, lines 5-20) discloses that inositol is a desirable product to recover. It would have been obvious to recover inositol because Hyoky (U.S. Patent No. 5,795,398) (column 1, lines 5-20) discloses that inositol is a desirable product to recover.

Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification as applied

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to claims 1, 3-18, 20-22, and 24-32 above, and further in view of Heikkila (U.S. Patent No. 5,730,877). At best, the claims differ from either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification in reciting the use of simulated moving beds. Heikkila (U.S. Patent No. 5,730,877) (column 2, lines 19-25) discloses use of a continuous or a sequential simulated moving bed enables performance several times higher than a batch process. It would have been obvious to use either a continuous or a sequential simulated moving bed in either Saska (U.S. Patent No. 5,482,631) or Saska (WO 00/42225) in view of Hirata (Japan Patent No. 4-158260), PTO Translation 06-3081 of Japan Patent No. 4-158260, and that which is conceded to be old on pages 1-3 of the instant specification because Heikkila (U.S. Patent No. 5,730,877) (column 2, lines 19-25) discloses use of a continuous or sequential simulated moving bed enables performance several times higher than a batch process.

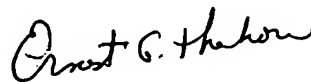
The remarks have been considered but are not deemed pertinent in view of the new grounds of rejection necessitated by applicant's amendment.

Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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**Art Unit 1723**

EGT  
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